

AMERICAN  
BLOWER CO.,  
DETROIT, MICH.

No. 100

DISC  
VENTILATING  
FANS





ILLUSTRATED  
SECTIONAL CATALOGUE  
No. 111

OF THE ABC DISC  
VENTILATING FANS



A MERICAN  
B LOWER  
C OMpany



DETROIT, MICH.



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DETROIT, MICH.

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THE WERNER COMPANY  
AKRON, OHIO

# American Blower Company

HEATING, VENTILATING  
AND DRYING ENGINEERS

MANUFACTURERS OF

## "ABC" Disc Ventilating Fans

### "A B C"

Heating Apparatus for Factories and Public Buildings.  
Sectional Base Heaters.

Steam Hot Blast Apparatus.

Steel Plate Plenum and Exhaust Fans.

Steam Fans.

Cotton Elevator Fans.

Volume Blowers and Exhausters.

Shavings Exhaust Fans.

Special Fans.

Steam Pumps.

Steam Traps.

Steam Engines—

Vertical and Horizontal.

Single and Double.

Automatic or Throttling Governors.

Dust Separators.

Lumber Dry Kilns.

Brick Dryers.

Dry Kiln Apparatus and Fixtures.

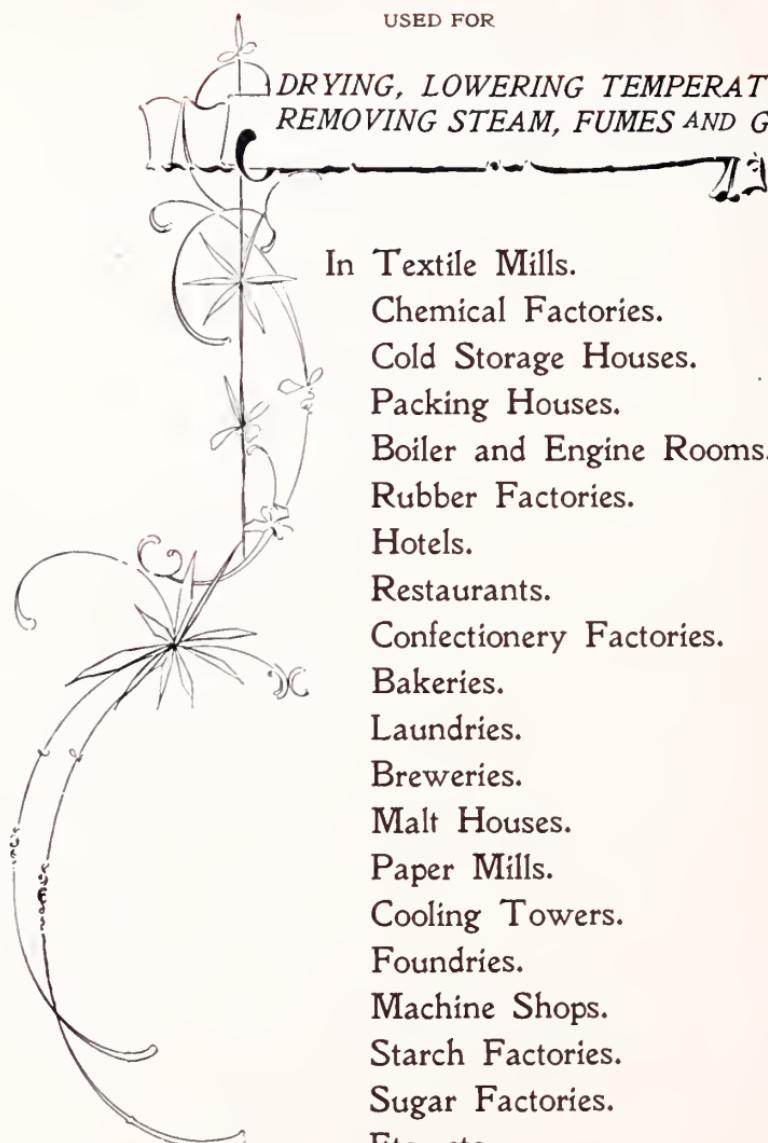
Steel Dry Kiln Trucks.

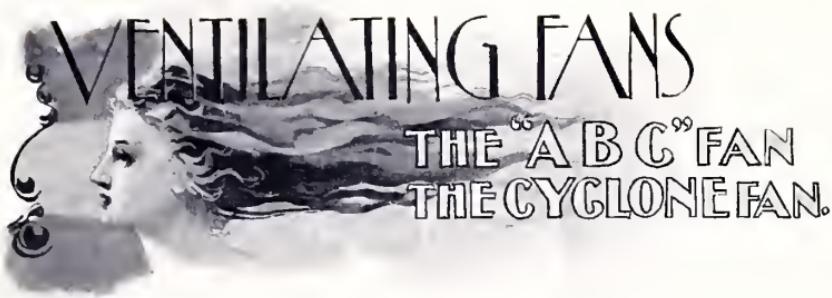
**"A B C"**

# Disc Ventilating Fans

USED FOR

*DRYING, LOWERING TEMPERATURE,  
REMOVING STEAM, FUMES AND GASES*

- 
- In Textile Mills.
  - Chemical Factories.
  - Cold Storage Houses.
  - Packing Houses.
  - Boiler and Engine Rooms.
  - Rubber Factories.
  - Hotels.
  - Restaurants.
  - Confectionery Factories.
  - Bakeries.
  - Laundries.
  - Breweries.
  - Malt Houses.
  - Paper Mills.
  - Cooling Towers.
  - Foundries.
  - Machine Shops.
  - Starch Factories.
  - Sugar Factories.
  - Etc., etc.



# VENTILATING FANS

THE "ABC" FAN  
THE CYCLONE FAN.

## *Introduction*

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FANS have grown rapidly into popular favor of late years, for the ventilation of all kinds of buildings, the removal of smoke, obnoxious fumes or gases, steam and dust; also for cooling overheated boiler and engine rooms or other places where heat is generated or radiated and the temperature becomes insufferably hot. The most notable increase in their application, however, has been in connection with heating apparatus for heating buildings and drying all kinds of material. They are equally as adaptable to furnaces of the various types, as to indirect radiators, steam coils or hot blast apparatus.

Another application which engineers have recently begun to appreciate, on account of the greater economy and absolute certainty of results, is the employment of Fans to assist the draft in ventilating shafts or eduction flues in large public buildings. For years it has been customary to put large stacks of coils into such shafts or flues to heat them and produce the required draft.

The advantage of the Fan for this work is best stated in the words of W. P. Trowbridge, Trans. A. S. M. E. VII., 531, in a theoretical solution of the rela-

tive amounts of heat expended to remove a given volume of impure air by a Fan and by a Chimney:

"Assuming the total efficiency of a Fan to be only 1.25, which is made up of an efficiency of 1.10 for the engine, 5/10 for the Fan itself, and 8/10 for efficiency as regards Friction, the Fan requires an expenditure of heat to drive it of only 1.38 of the amount that would be required to produce the same ventilation by a Chimney 100 feet high. For a Chimney 500 feet high, the Fan will be 7.6 times more efficient."

With an experience of over a score of years, we are eminently fitted to give advice on all possible applications.

We wish to impress upon our customers—past or prospective—that we solicit the freest correspondence regarding all points in question, as our greatest desire is the success of each installation. This is best assured by previous experience and the probabilities are all in our favor that we have many times met with exactly the same conditions.

**AMERICAN  
BLOWER  
COMPANY**

# The “A B C” Disc Ventilating Fan

## DESCRIPTION:

A Fan totally different in construction from any other fan on the market—built for the noiseless delivery of a maximum volume of air with a minimum expense for power, and guaranteed, on actual test, to deliver from one-third to one-half more air with the same power than any other fan ever built. A Fan so constructed that it will not only exhaust air from a compartment and deliver into the open, but will deliver a practically undiminished volume against a pressure of from one to two ounces. A mechanism combining strength and rigidity with lightness and consequent ease of operation.

## CONSTRUCTION:

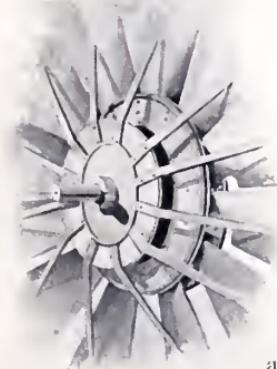
**Base**—Made solid and of cast-iron, a feature securing absolute freedom from vibration.

**Arms**—Of cast-iron with a yoke in the centre to support the bearings. The ends of the arms are bolted to the fan casing and the base.

**Casing**—Of sheet steel, completely enclosing the fan blades, enabling the user to place in any position without danger of accident.

**Shaft**—Of the finest quality of cold rolled steel.

**Journals**—As shown and described on page 10. Being self-oiling and self-aligning, they always run smooth and cool. These are better bearings than can be found in any other make of Disc Fan, and alone are worth more than the entire fan of common types.



**Blades and Central Discs**—In these two features lies the basis of our claim for large volume of air handled and delivery against pressure. In this Fan, there are 12 blades against 8 at the most—and usually 6—of any other fan. Each blade is made of steel, overlapping the one next to it, and is bolted to each of two large Centre Discs, one of which is on either side. This increased number of blades assures a proportionately greater delivery of air, and the extra support of the Discs, additional strength. Another, and even greater function of the Discs, is the prevention of a back-flow of air through the centre when working against pressure.

To illustrate the difference in this respect between the operation of the "A B C" Fan and one of the usual construction, let us assume that one of

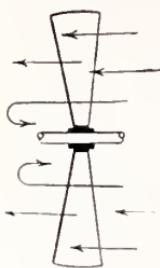


Fig. 1

latter type is forcing air into a long pipe or conduit. Its speed at the outside of the blades is high, and the propulsive force great, but, as the centre is gradually approached, both of these factors rapidly decrease, until at the hub there is, of course, no such force, whatever, present; in consequence, a circuit is set up much as shown in Fig. 1, the result being that, after a certain pressure has been established in the pipe, any additional speed will simply bring air back through the centre.

In the "A B C" Fan, such a thing is impossible. The propulsive force is much greater on account of the increased number of blades, and the wide Discs at the centre prevent any such back-flow at that point, the result being, as shown by Fig. 2, that the air having once passed through the Fan, has but one exit—the opposite end of the conduit.

It is by virtue of these devices we are enabled to use a "Disc" Fan in many instances where other manufacturers employ the "paddle-wheel" type of Fan or "blower." This is always desirable, when possible, owing to the saving in power secured, as the "Disc" Fan requires but one-half to two-thirds that of the other type to move the same volume of air.

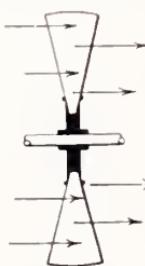
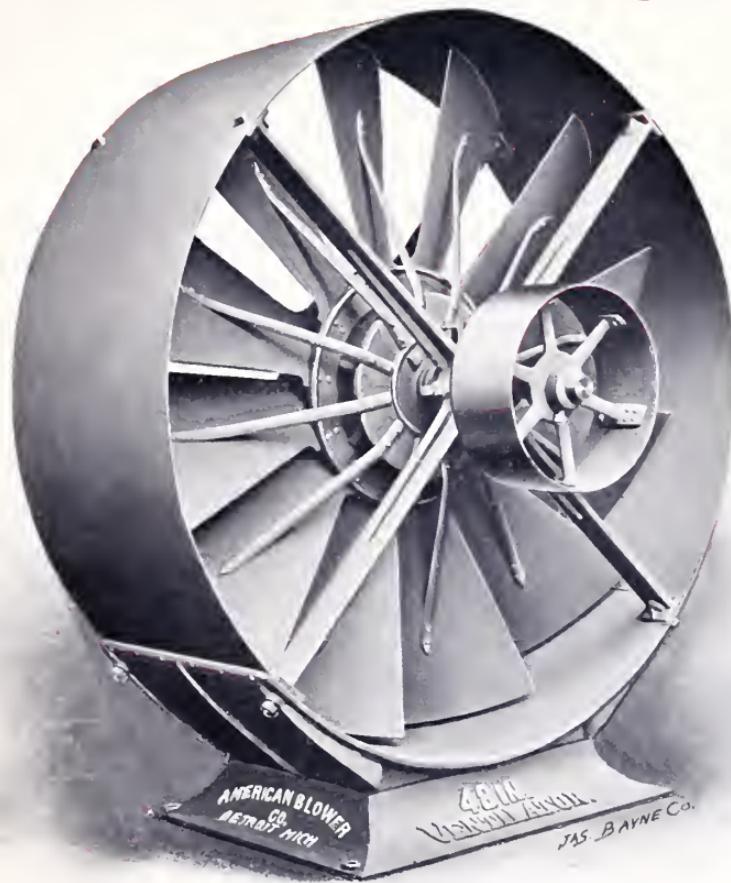


Fig. 2

We are the only manufacturers who apply Disc Fans to Hot Blast Apparatus for heating and drying. In many cases we are saving large concerns sufficient in power to pay for the apparatus in the first year of its use.

As extensive manufacturers of various types of Blowers and Steel Plate Fans of the "paddle-wheel" type we make this statement, knowing whereof we speak, and certainly could not afford to recommend it in place of the other types of fans unless it had the decided points of advantage claimed for it. We particularly call attention to our guarantee on pages 28 and 29.

# The "A B C" Disc Ventilating Fan



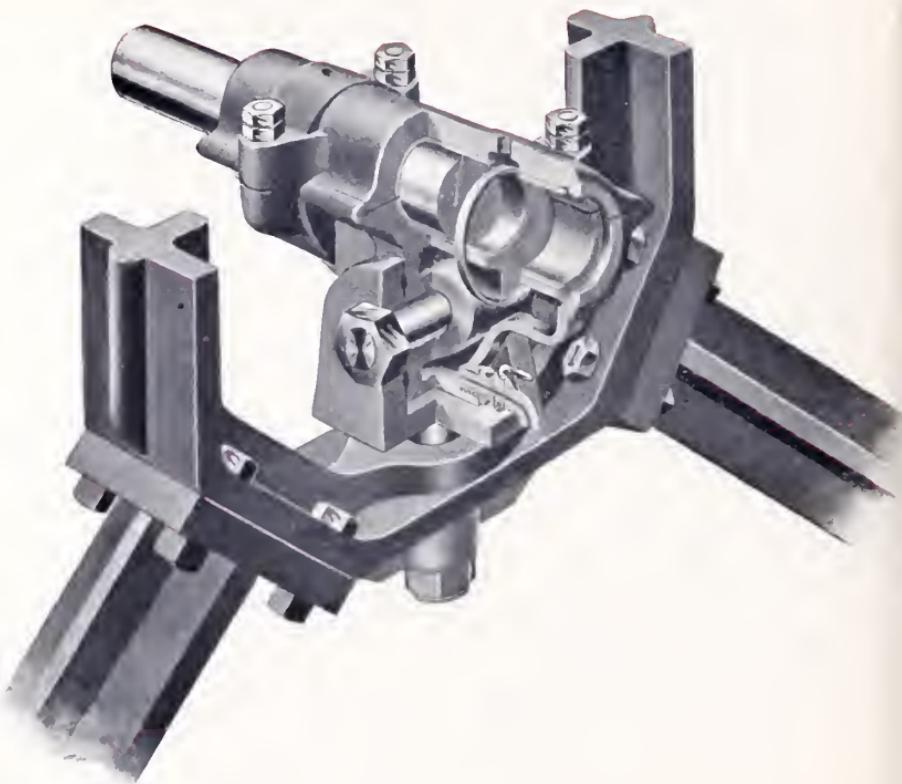
With Standard Base and Pulley.

## DIMENSIONS AND PRICE LIST

Diam. of Fan	Price	PULLEY	BASE	Size in Inches	Diam. of Shaft	Width of Case	Revolutions per Minute	Capacity in Cubic Feet per Minute	Weight in Pounds	Tele-graphic Code Word
Diam.	Diam.	Face		Height						
18	\$37.50	4	2½	13½ x 12	3½	1½	10	1300 to 1800	5000	Vacate
21	42.00	5	3	13½ x 12	3½	1½	10	1200 to 1700	7000	Value
24	47.50	6	3½	20 x 16	4½	1½	12¾	1000 to 1500	9000	Venerate
30	60.00	8	4½	19½ x 22	5	1½	12¾	900 to 1200	12000	Vacillate
36	78.00	10	4½	22 x 22	5	1½	15½	700 to 950	18000	Vegetate
42	93.00	12	5½	24 x 28	5	1½	17	600 to 900	25000	Veneer
48	115.50	13	5½	24 x 28	5	1½	19½	500 to 800	30000	Vapor
54	147.00	14	6½	28 x 38	5	1½	21½	450 to 750	40000	Vanish
60	184.50	16	6½	28 x 38	5	1½	21½	350 to 500	50000	Tritify
72	231.00	18	7½	28 x 38	5	2½	250 to 400	75000	Vitiate	

These sizes carried in stock. For larger sizes, see page 12.

# The “A B C” Disc Ventilating Fan

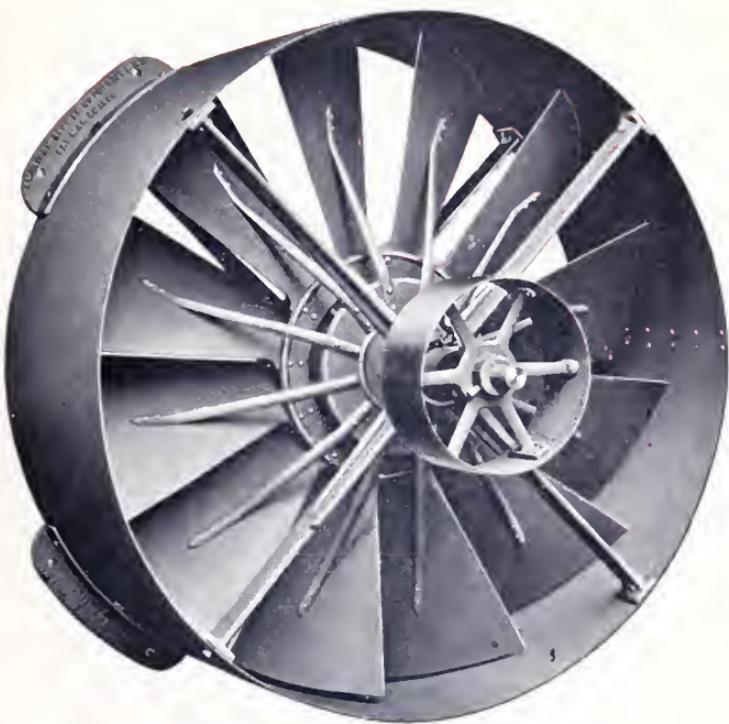


The “A B C” Disc Fan Bearings

These Bearings are self-aligning in all directions and are self-oiling, being provided with two rings to each journal. They are lined with the finest quality of Babbitt metal, and are in every way the superior of any other Disc Fan bearing made.

Fans smaller than 72" have sleeve boxes held in position with set screws instead of a pin bearing, as shown above.

## The “ABC” Disc Ventilating Fan



## With Cast-Iron Flanges.

For Prices and Dimensions, see page 9.

## COMBINATIONS:

On all sizes up to 72", the "A B C" Disc Fans are provided with cast-iron bases, as shown on page 9; they will be furnished with cast-iron flanges, as shown above, when desired. Angle-iron flanges, as shown on page 12, are regularly provided on sizes 84" and larger, and will be furnished on any smaller sizes when ordered.

The Horizontal Fan, as shown on page 13, is regularly built with cast-iron flanges; for these an angle-iron flange can be substituted if desired.

The mountings shown on pages 16 and 17 are especially designed for attachment to heater casings, for either belt drive or vertical engine connected direct to Fan shaft.

On page 14 is shown the "A B C" Fan with direct attached engine of a new type. This combination has met with much favor on account of its compactness, neatness, absolute noiselessness at very high speeds, and economical consumption of steam.

All sizes of regular Fans are kept in stock, also unassembled parts for all possible combinations, thus assuring quick shipments.

# The “ABC” Disc Ventilating Fan



**With Angle-Iron Flanges  
DIMENSIONS AND PRICE LIST**

Diam. of Fan	Price	PULLEY	Diam. Face	Diam. of Shaft	Width of Case	Revolutions per Minute	Cap'ty in Cub. Ft. per min.	Weight in Pounds	Telegraphic Code Word
84	\$400	20	7 $\frac{1}{4}$	2 $\frac{7}{8}$	28	225 to 350	100000	1260	Vaccinate
96	500	24	7 $\frac{1}{4}$	2 $\frac{7}{8}$	28	200 to 300	125000	1475	Venture
108	600	28	8 $\frac{3}{4}$	3 $\frac{7}{8}$	36	175 to 250	160000	2625	Vellum
120	700	30	9 $\frac{1}{4}$	3 $\frac{7}{8}$	36	150 to 225	300000	2850	Vicuna

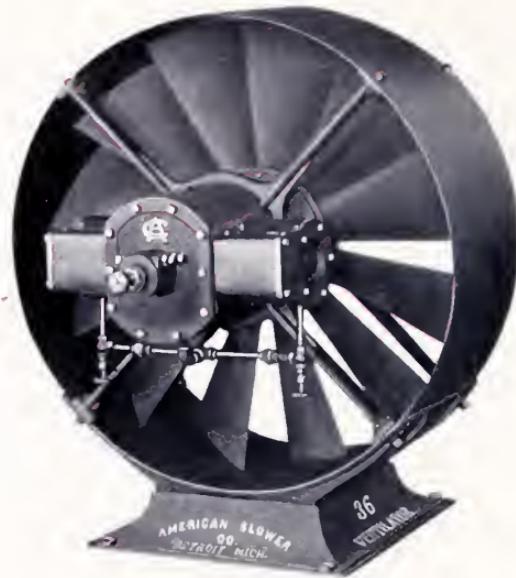
# The “ABC” Disc Ventilating Fan



**Horizontal Fan with Flanges.**  
**DIMENSIONS AND PRICE LIST**

Diam. of Fan	PULLEY Price	Diam. Face	Diam. of Shaft	Width of Case	Revolutions per Minute	Cap'ty in Cubic Feet per Min.	Telegraphic Code Word
18	\$ 41.25	4	2 $\frac{1}{2}$	1 $\frac{1}{8}$	10	1300 to 1800	5000
21	46.25	5	3	1 $\frac{1}{8}$	10	1200 to 1700	7000
24	51.25	6	3 $\frac{1}{4}$	1 $\frac{1}{8}$	12 $\frac{3}{4}$	1000 to 1500	9000
30	66.00	8	4 $\frac{1}{4}$	1 $\frac{1}{8}$	12 $\frac{3}{4}$	900 to 1200	12000
36	86.00	10	4 $\frac{1}{4}$	1 $\frac{1}{8}$	15 $\frac{1}{2}$	700 to 950	18000
42	102.50	12	5 $\frac{1}{4}$	1 $\frac{1}{8}$	17	600 to 900	25000
48	127.00	13	5 $\frac{1}{4}$	1 $\frac{1}{8}$	19 $\frac{1}{4}$	500 to 800	30000
54	162.00	14	6 $\frac{1}{4}$	1 $\frac{1}{8}$	21 $\frac{1}{2}$	450 to 750	40000
60	203.00	16	6 $\frac{1}{4}$	1 $\frac{1}{8}$	21 $\frac{1}{2}$	350 to 500	50000
72	255.00	18	7 $\frac{1}{4}$	2 $\frac{3}{8}$	24	250 to 400	75000

# The "ABC" Disc Ventilating Fan

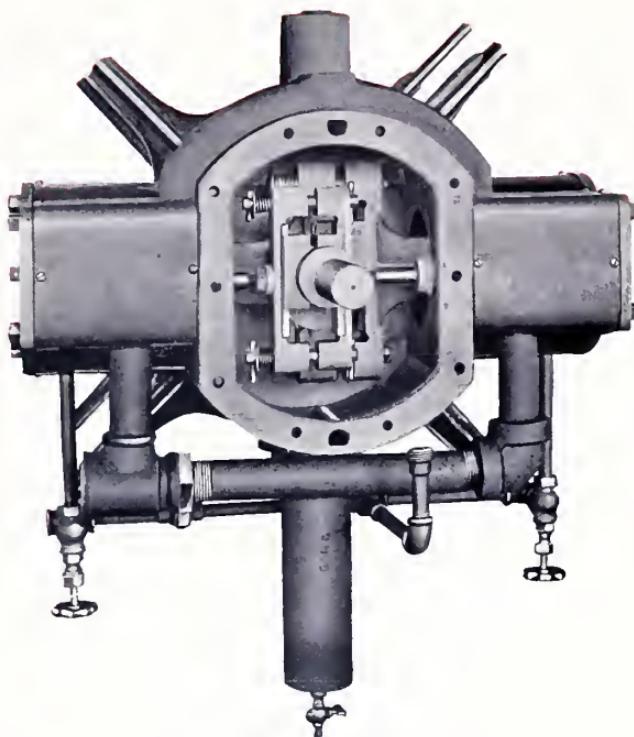


Combined with "A B C" Enclosed Single-Acting Engine.

## DIMENSIONS AND PRICE LIST

Size in Inches	Price	Dimensions of Base	Revolutions per Minute	Cubic Feet of Air per Minute	Weight	Telegraphic Code Word
24	\$187.50	20 x 16	800	5000	225	Quadrel
30	107.00	22 x 19	700	8000	300	Quadric
36	149.00	22 x 22	600	12000	400	Quadriceps
42	291.00	25 x 24	500	16000	504	Quadriga
48	333.00	25 x 24	400	20000	1060	Quadroxide
54	390.00	37 x 28	350	25000	1140	Quadruplex
60	468.00	37 x 28	300	30000	1575	Quaere

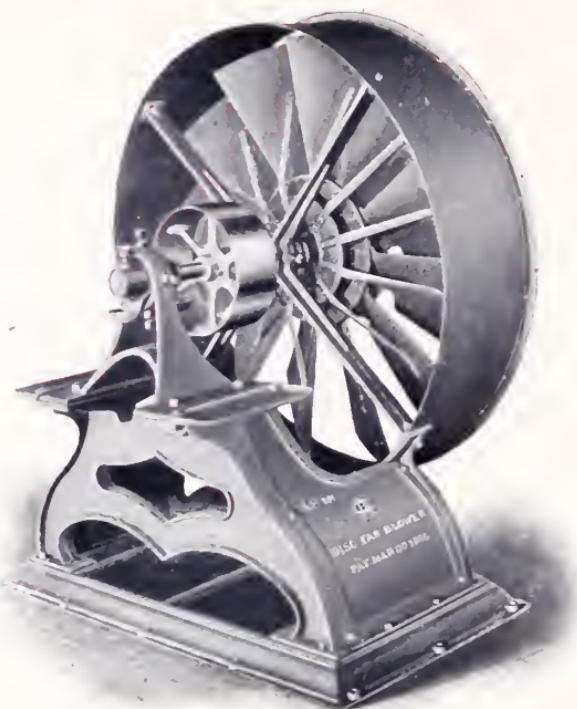
# The “ABC” Enclosed Single-Acting Engine



INTERIOR VIEW OF ENGINE

This Engine is entirely enclosed, all working parts running in oil, absolutely protected from dust and dirt. It has fewer parts than any other engine on the market. All wear is automatically taken up, there being nothing to adjust but a stuffing-box on the shaft. It is very economical in the use of steam and is absolutely noiseless at very high speeds. The entire engine is lubricated from the central oil chamber, which is fed from the outside. It is a reciprocating Engine, the steam being admitted alternately to the opposite ends of two cylinders by slide valves, which have a cut-off at one-half stroke.

# The “ABC” Disc Ventilating Fan

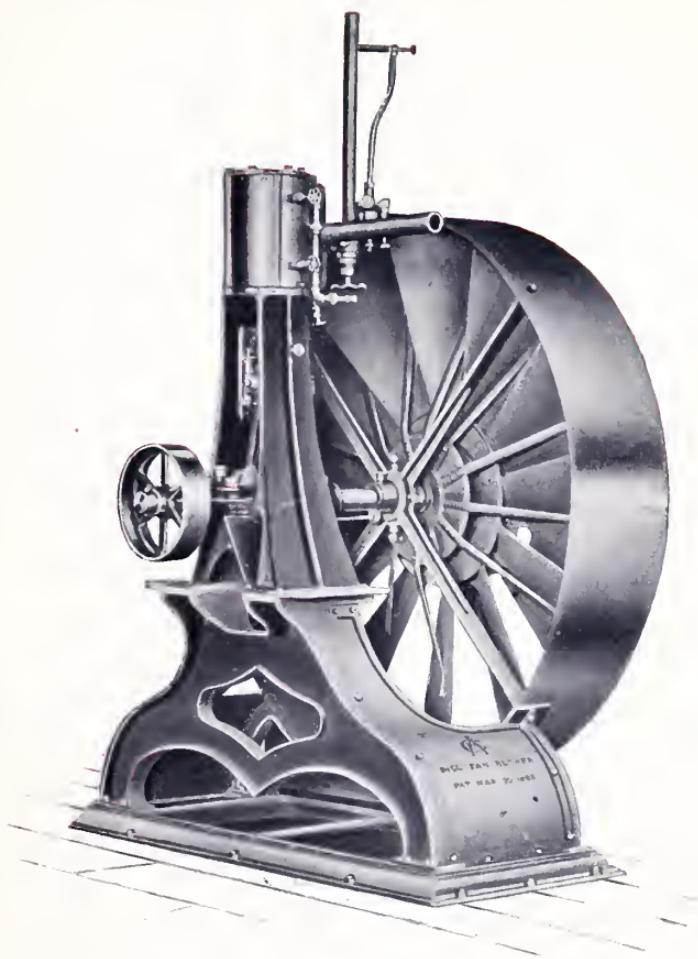


Combined with Pulley Heater Front Base

## DIMENSIONS AND PRICE LIST

Size in Inches	PRICE		Size of Engine	Revolutions per Minute	Capacity in Cubic Feet per Min.	WEIGHT		TELEGRAPHIC CODE WORD	
	With Pulley	With Engine				With Pulley	With Engine	With Pulley	With Engine
30	\$105	\$245	3 x 3	900 to 1200	12000	355	542	Varking	Varuna
36	125	265	3 x 3	700 to 950	18000	410	548	Vegetating	Vehicle
42	165	335	4 x 4	600 to 900	25000	597	855	Veneering	Vascular
48	185	355	4 x 4	500 to 800	30000	685	1060	Vaporizing	Variety
48	185	400	5 x 5	500 to 800	30000	685	1193	Vibrating	Vibrate
54	205	420	5 x 5	450 to 750	40000	798	1278	Vanishing	Verdict
60	295	505	5 x 5	350 to 500	50000	1240	1850	Vitrifying	Victory
60	295	560	6 x 6	350 to 500	50000	1240	2034	Vitiation	Vignette
72	350	610	6 x 6	250 to 400	75000	1561	2095	Vitiating	Vigorous
72	350	685	7 x 7	250 to 400	75000	1561	2245	Viking	Vitreous
84	590	900	7 x 7	225 to 350	100000	1924	2784	Vivacious	Vivacious
96	900	1250	9 x 7	200 to 300	125000	2104	3164	Vivacity	Vivarium

# The “A B C” Disc Ventilating Fan



Combined with “A B C” Vertical Engine and Base.

For Dimensions and Price List, see page 16.

This cut represents a most compact and substantial combination of a Disc Fan and direct attached high-speed Vertical Engine. It is used extensively for both ventilating and drying purposes. The same Fan and base, with pulley instead of engine, is shown on the opposite page.

# The "ABC" Disc Ventilating Fan



**With Direct Attached Electric Motor.**

## PRICE LIST

Size in Inches	Price	R. P. M.		Weight in Pounds	Code
		High Speed	Low Speed		
24	\$232.00	1000	600	265	Earner
30	338.00	700	420	325	Easter
36	380.00	600	350	385	Editor
42	513.00	550	300	700	Elector
48	643.50	500	275	780	Elephant
54	711.00	450	250	915	Elisor
60	1,024.50	350	200	1030	Eraser

For Enclosed Type, shown on page 19, use code word "Equator."

Above prices include a 5 speed fire-proof rheostat with automatic release switch. Motors are wound for 125 and 250 volts; 500 volt motors 10 per cent. extra. Enclosed motors, like cut on page 19, \$10.00 extra, net.

# The “ABC” Disc Ventilating Fan



With Enclosed Direct Connected Electric Motor.

See Prices Page 18.

## DESCRIPTION OF MOTOR

**TYPE:**—All of our Motors are of the multipolar type, the number of poles being regulated by the size of the machines and the amount of work required of them, maintaining a short magnetic resistance in the field frame.

**The Field** of the Motor, including the spider for the Fan is entirely one piece, overcompensating all magnetic leakage; being in one piece, it has an equal magnetic resistance, which is not the case where motor frames are in two pieces. The field windings are in series with the armature and have a resistance between the field frames of one megohm or more.

**The Armature** is of the latest and most approved design. It is of the slotted type, form wound, and has an insulation resistance of one megohm or more. It can be removed from the shaft without disturbing the windings. The plates in the core are thoroughly insulated from one another, breaking up all possibility of eddy currents.

**The Commutator** is made of tempered copper, thoroughly insulated with mica, and has the highest possible resistance between the bars and hub.

**The Brush Holders** are designed for Carbon Brushes, with automatic feed.

**CONSTRUCTION:**—Extreme care is taken in the construction of all parts and only the best obtainable material enters into them.

At normal rated load of these Motors, the heating limit, under continual service, does not exceed 60 degrees Fahrenheit above the surrounding atmosphere.

These Motors are decidedly the neatest and best motors built for fan work. When attached, they project no further than does a pulley on an ordinary fan.

# The Cyclone Ventilating Fan



This Fan is built for the sole purpose of meeting competition in a line of cheap fans, with which the market is flooded. Nearly all the "Disc" Fans offered in competition with the "A B C" Fan resemble this "Cyclone" type. They may have curious twists, curves and pockets to their blades, all of which can be made to appear very attractive to the uninitiated, but which in reality are no advantage whatever, and more frequently are a decided detriment to the travel of the air through the fan.

Where *price* and not *efficiency* is the consideration, we cannot too highly recommend our "Cyclone" Fan. It is a *cheap* fan, not that it is built of poor material or is flimsy in construction, but it is *cheap* compared with the "A B C" Fan, because it has only six blades, less breadth to them, a narrower case, a lighter base and lighter arms. Instead of the large heavy central discs, it has a small light disc. Again, the blades are riveted to steel arms, which latter are cast into the hub. Notice how closely this construction resembles every other fan than the "A B C" Fan, which latter is built for business, no matter how heavy the work may be.

On page 29 is a table of capacities of "A B C" Fans. These "Cyclones" will handle only one-half to two-thirds of the amount of air at the speeds given in the table, on free inlet and delivery; the slightest resistance to the air travel on either the inlet or delivery side will cause them to fail to do their duty exactly the same as any Ventilating Fan, other than the "A B C" Fan.

The material of which the "Cyclone" Fans are constructed is the best obtainable for the purpose. The blades and casing are the finest quality of annealed steel plate. The shaft is cold rolled steel. The journal boxes are self-aligning. The fan, in every detail, is a worthy competitor of any other fan on the market excepting the "A B C" Disc Fan.

These Fans can be provided with cast-iron flanges or angle-iron flanges instead of cast-iron base, as shown on pages 11 and 12.

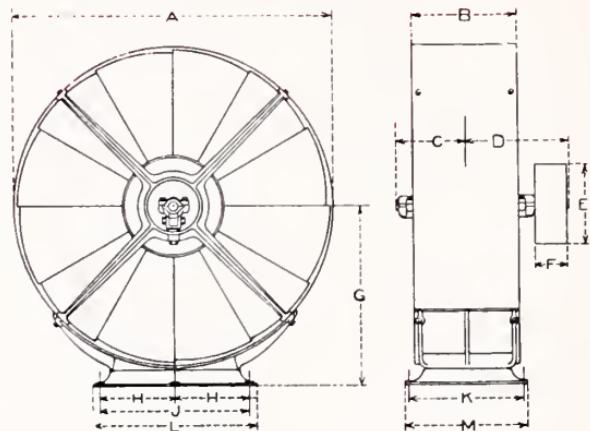
# The Cyclone Ventilating Fan



## DIMENSIONS AND PRICE LIST

Size in Inches	Price	Pulley	Base	Height to Centre of Shaft	Diam. of Shaft	Revolutions per Minute	Weight	Telegraphic Code Word
24	\$34.50	4 x 2 $\frac{1}{4}$	15 $\frac{1}{2}$ x 9	14	1 $\frac{5}{8}$	1000 to 1500	70	Cutlass
30	45.00	5 x 3 $\frac{1}{4}$	19 $\frac{1}{2}$ x 11 $\frac{1}{2}$	17 $\frac{1}{2}$	1 $\frac{1}{16}$	900 to 1200	90	Curry
36	58.50	6 x 3 $\frac{1}{4}$	23 $\frac{1}{2}$ x 13	20 $\frac{3}{4}$	1 $\frac{7}{16}$	800 to 1000	170	Cupel
42	69.00	7 x 4 $\frac{1}{4}$	28 $\frac{1}{2}$ x 14 $\frac{1}{2}$	24	1 $\frac{5}{16}$	700 to 950	200	Cullis

# The “ABC” Disc Ventilating Fan

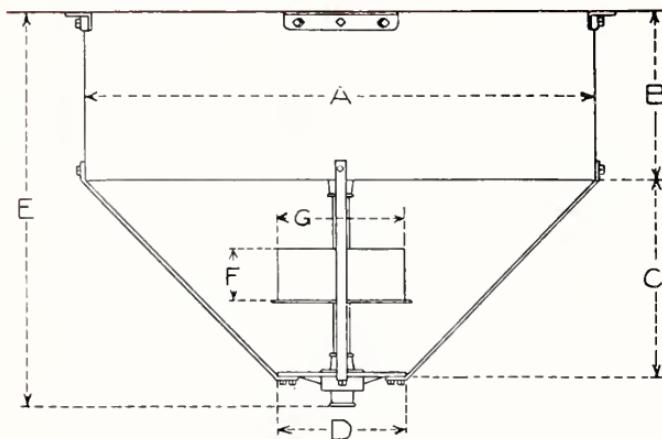


With Standard Base

## DIMENSION TABLE

SIZE	A	B	C	D	E	F	G	H	J	K	L	M
18	18 $\frac{5}{8}$	10	6 $\frac{1}{2}$	9	4	2 $\frac{1}{2}$	12 $\frac{5}{8}$	...	11	10	13 $\frac{1}{4}$	12
21	21 $\frac{3}{4}$	10	6 $\frac{1}{2}$	9 $\frac{1}{2}$	5	3	14 $\frac{3}{8}$	...	11	10	13 $\frac{1}{4}$	12
24	24 $\frac{3}{4}$	12 $\frac{3}{4}$	8 $\frac{3}{4}$	12	6	3 $\frac{1}{4}$	16 $\frac{5}{8}$	...	16 $\frac{3}{8}$	14 $\frac{1}{2}$	19 $\frac{3}{4}$	16
30	30 $\frac{3}{4}$	12 $\frac{3}{4}$	8 $\frac{3}{4}$	13	8	4 $\frac{1}{4}$	19 $\frac{1}{2}$	...	18 $\frac{3}{4}$	18	22 $\frac{1}{8}$	19 $\frac{1}{4}$
36	37 $\frac{1}{4}$	15 $\frac{1}{2}$	10	14 $\frac{1}{2}$	10	4 $\frac{1}{4}$	23 $\frac{1}{2}$	...	20 $\frac{3}{4}$	18 $\frac{3}{4}$	22	22
42	42 $\frac{3}{4}$	17	10 $\frac{1}{2}$	16	12	5 $\frac{1}{4}$	25 $\frac{7}{8}$	...	26 $\frac{3}{4}$	20 $\frac{1}{4}$	28	24
48	49 $\frac{1}{4}$	19 $\frac{1}{4}$	12	17 $\frac{1}{2}$	13	5 $\frac{1}{4}$	29 $\frac{5}{8}$	...	26 $\frac{3}{4}$	20 $\frac{1}{4}$	28	24
54	55 $\frac{1}{4}$	21 $\frac{1}{2}$	13	19 $\frac{3}{4}$	14	6 $\frac{1}{4}$	32 $\frac{1}{8}$	16 $\frac{3}{4}$	33 $\frac{1}{2}$	26 $\frac{3}{4}$	37 $\frac{1}{4}$	28
60	60 $\frac{1}{2}$	21 $\frac{1}{2}$	13	19 $\frac{3}{4}$	16	6 $\frac{1}{4}$	34 $\frac{5}{8}$	16 $\frac{3}{4}$	33 $\frac{1}{2}$	26 $\frac{3}{4}$	37 $\frac{1}{4}$	28
72	73 $\frac{1}{8}$	24	13 $\frac{1}{2}$	20 $\frac{3}{4}$	18	7 $\frac{1}{4}$	41 $\frac{1}{8}$	16 $\frac{3}{4}$	33 $\frac{1}{2}$	26 $\frac{3}{4}$	37 $\frac{1}{4}$	28

# The “ABC” Ventilating Disc Fan

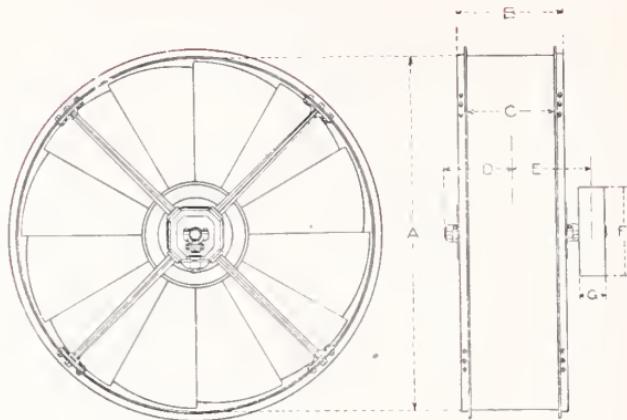


Horizontal.

DIMENSION TABLE

SIZE	A	B	C	D	E	F	G
18	18 $\frac{5}{8}$	10	7	11	19 $\frac{1}{2}$	2 $\frac{1}{2}$	4
21	21 $\frac{3}{4}$	10	7	11	19 $\frac{1}{2}$	3	5
24	24 $\frac{3}{4}$	12 $\frac{3}{4}$	8 $\frac{1}{2}$	11	24 $\frac{1}{2}$	3 $\frac{1}{4}$	6
30	31 $\frac{1}{4}$	12 $\frac{3}{4}$	10	11	25 $\frac{3}{4}$	4 $\frac{1}{4}$	8
36	37 $\frac{3}{8}$	15 $\frac{1}{2}$	12	13 $\frac{1}{2}$	31 $\frac{1}{4}$	4 $\frac{1}{4}$	10
42	42 $\frac{7}{8}$	17	15	13 $\frac{1}{2}$	36 $\frac{1}{4}$	5 $\frac{1}{4}$	12
48	49 $\frac{3}{8}$	19 $\frac{1}{4}$	16 $\frac{3}{4}$	16	40 $\frac{1}{4}$	5 $\frac{1}{4}$	13
54	55 $\frac{1}{2}$	21 $\frac{1}{2}$	19 $\frac{1}{2}$	16	45 $\frac{1}{4}$	6 $\frac{1}{4}$	14
60	60 $\frac{1}{2}$	21 $\frac{1}{2}$	22 $\frac{3}{4}$	16	50	6 $\frac{1}{4}$	16
72	73 $\frac{1}{8}$	24	27 $\frac{3}{4}$	18	58	7 $\frac{1}{4}$	18

# The “ABC” Disc Ventilating Fan

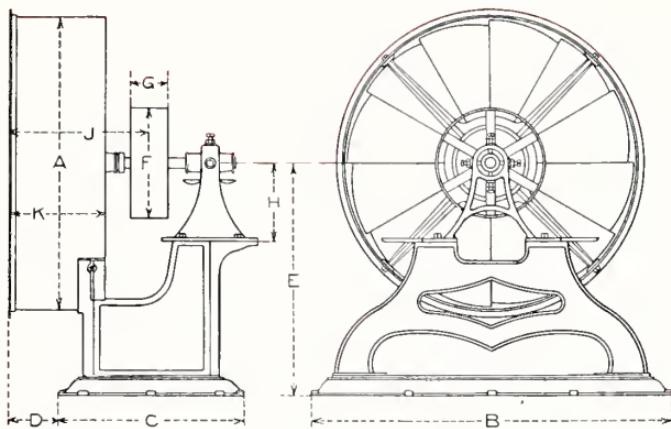


With Angle-Iron Flanges.

## DIMENSION TABLE

SIZE	A	B	C	D	E	F	G
84	85½	28	22	18	21	20	7¼
96	97½	28	22	18	21	24	7¼
108	110	36	29	22¾	26	28	8¼
120	122	36	29	22¾	26	30	9¼
132	134	36	28½	24¾	28	32	10¼
144	146	36	28½	24¾	29	34	12¼

# The “ABC” Disc Ventilating Fan

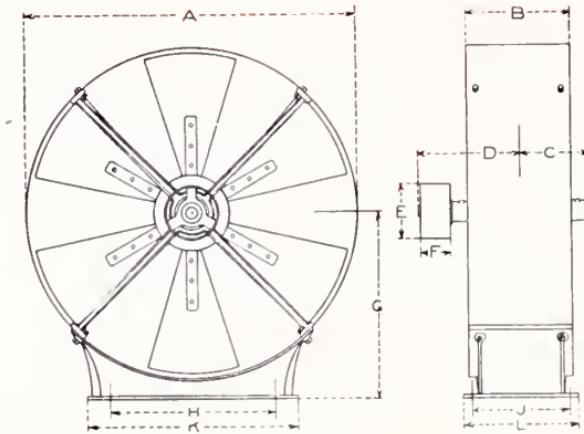


With Heater Front.

## DIMENSION TABLE

SIZE	A	B	C	D	E	F	G	H	J	K
30	30 $\frac{3}{4}$	40	23	5 $\frac{3}{4}$	26 $\frac{1}{4}$	8	4 $\frac{1}{4}$	7 $\frac{1}{8}$	15 $\frac{1}{2}$	12
36	37 $\frac{1}{4}$	40	23	5 $\frac{3}{4}$	25 $\frac{3}{4}$	10	4 $\frac{1}{4}$	7 $\frac{1}{8}$	15 $\frac{1}{2}$	12
42	42 $\frac{3}{4}$	52	27	5 $\frac{3}{4}$	30	12	5 $\frac{1}{4}$	9 $\frac{1}{2}$	18 $\frac{1}{2}$	13
48	49 $\frac{1}{4}$	52	27	7 $\frac{1}{2}$	33 $\frac{1}{2}$	13	5 $\frac{1}{4}$	11 $\frac{1}{4}$	18 $\frac{1}{4}$	14
54	55 $\frac{1}{4}$	52	27	8	35 $\frac{1}{2}$	14	6 $\frac{1}{4}$	11 $\frac{1}{4}$	18 $\frac{7}{8}$	15
60	60 $\frac{1}{2}$	77	32	8	40 $\frac{1}{2}$	16	6 $\frac{1}{4}$	11 $\frac{1}{4}$	22 $\frac{5}{8}$	16
72	73 $\frac{1}{8}$	77	32	9 $\frac{3}{4}$	45	18	7 $\frac{1}{4}$	11 $\frac{1}{4}$	24 $\frac{3}{8}$	18

# The Cyclone Ventilating Fan



DIMENSION TABLE

SIZE	A	B	C	D	E	F	G	H	J	K	L
24	25	8½	6	8	4	2¼	14	11½	8½	15½	9½
30	31	10	7	10½	5	3¼	17½	15½	10	19¾	11½
36	37½	11½	9¼	12½	6	3¼	21	18½	11	23½	13
42	43½	12½	10½	14½	7	4¼	24¼	24	12½	28	14½

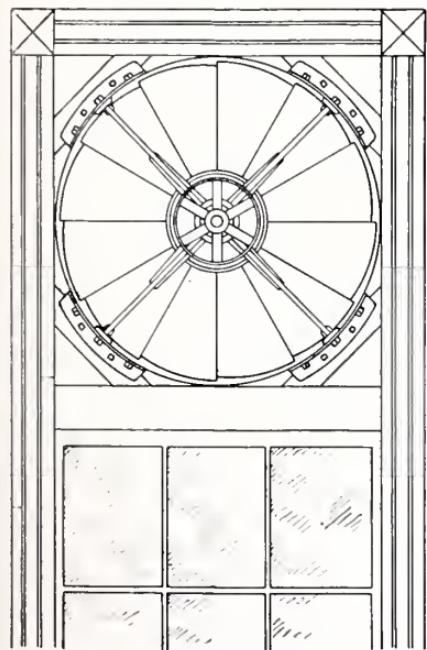
# A FEW POINTERS



We build our Disc Fans *right or left hand*; that is, standing on the pulley side of the Fan, looking in the direction the air flows, if the Fan turns over to the right, it is a right hand Fan; if it turns over to the left, it is left hand. Observing this point when ordering, will save running crossed belts.

All the cuts in this Catalogue show *left hand* Fans, which is our standard, and which will be shipped unless we receive instructions to the contrary.

To cool an overheated room, in which heat is generated, it requires a large volume of air to reduce the temperature. A Fan too small to do the work is an absolute waste of money and a continual disappointment. When buying a Fan, get one large enough. It does not require as large a Fan to remove smoke, fumes, gases or steam, ordinarily, as it does to cool an apartment.



that produces the effects which are to be overcome.

Hcrewith we illustrate a common method employed in installing a Fan in a window. As the majority of Fans are put into windows, the accompanying sketch is in order. The drawing is so clear that explanation is unnecessary.

If a Fan with double angle-iron flanges is to be built into a brick wall, give us the exact thickness of wall and flanges will be spaced accordingly.

When ordering Fans with electric motors, give us the voltage.

When ordering engines to drive Fans, give the steam pressure and the distance Fan will be from boiler.

When asking for advice as to the size of Fan to perform a certain duty, give us explicit information regarding all conditions, together with a plan and section of the building, showing all windows, doors, stairways, elevator shafts and location of apparatus

# IMPORTANT

Some twenty years ago, when the science of pneumatics was in its infancy, and likewise the manufacture of Fans, manufacturers found it necessary to publish tables giving the capacities of their Fans at varying speeds. For reasons easily to be imagined, but anything but commendable, capacities entirely fictitious were assigned, far exceeding actual performance under the most favorable conditions. These tables were published and the public systematically swindled thereby. Later manufacturers, fearing that if they reduced the delivery, unfavorable comparisons would be made against them, arranged their tables either on the same basis or a trifle higher; and so it has gone on down to the present time. It did not take long, however, for the public to become aware of the imposition, and it is a long time since any confidence whatever has been placed in such tables. To-day they are a source of mirth and ridicule to the intelligent public.

The table on the opposite page is the result of actual and careful tests. The deliveries quoted will be found lower than those in tables published in the catalogues of other houses; but *we wish it understood that we guarantee every figure of either capacity or horse power to be absolutely correct.*

## EXPLANATION

The following example will serve to illustrate the way in which the table is used:

Take, for instance, a 42" Fan. Working with a free and unobstructed discharge, this Fan will deliver 11,541 cubic feet of air, producing a velocity of 1,200 feet, when running 280 revolutions per minute, and will require .550 H. P. for operation.

When attached to a Heater composed of coils of the proper free area, in order to deliver the same amount of air and produce the same velocity, the Fan will have to run 453 revolutions per minute, requiring 1.64 H. P. for operation.

# The "ABC" Disc Ventilating Fan

## CAPACITIES, SPEEDS AND HORSE POWERS

AIR VELOCITY IN FT. PER MIN.	Size Fan	18	21	24	30	36	42	48	54	60	72	84	96	108	120	
600	Free	Cu. Ft.	1060	1440	1880	2940	4230	5772	7536	9540	11770	16960	23090	30156	38160	47160
		R.P.M.	327	280	245	196	165	140	122	110	98	82	70	62	55	50
700	Heater	H. P.	.016	.022	.028	.048	.064	.087	.113	.143	.177	.253	.345	.450	.573	.706
		R.P.M.	539	453	396	317	267	227	197	178	158	132	113	100	89	81
800	Free	Cu. Ft.	1235	1680	2200	3400	4940	6730	8800	11120	13750	19760	26950	35016	44500	55000
		R.P.M.	370	328	280	230	190	164	145	127	112	96	82	72	62	58
900	Heater	H. P.	.025	.035	.045	.070	.110	.136	.178	.227	.279	.402	.548	.740	.905	1.11
		R.P.M.	600	530	458	372	307	266	234	206	178	158	132	116	100	92
1000	Free	Cu. Ft.	1410	1920	2510	3820	5650	7700	10300	12710	15710	22600	30400	40150	50900	62800
		R.P.M.	435	373	326	262	218	187	164	145	131	110	94	83	73	66
1200	Heater	H. P.	.036	.048	.068	.098	.142	.192	.251	.317	.392	.562	.766	1.00	1.27	1.57
		R.P.M.	795	604	527	424	353	302	265	234	212	178	152	134	118	107
1400	Free	Cu. Ft.	1584	2160	2826	4410	6354	8650	11304	14310	17667	25443	34642	45234	57250	70650
		R.P.M.	499	425	368	285	246	210	184	164	146	123	106	93	82	74
1600	Heater	H. P.	.048	.065	.085	.132	.190	.258	.338	.428	.530	.762	1.04	1.35	1.72	2.12
		R.P.M.	792	779	595	461	398	340	298	265	236	199	173	150	132	119
1800	Free	Cu. Ft.	1770	2400	3140	4900	7060	9610	12560	15900	19630	28270	38480	50265	63600	78540
		R.P.M.	545	470	406	328	275	234	205	181	166	136	120	103	91	82
2000	Heater	H. P.	.057	.080	.104	.142	.233	.317	.413	.520	.647	.933	1.27	1.66	2.09	2.56
		R.P.M.	883	760	657	530	445	378	332	293	268	220	194	167	147	132
2200	Free	Cu. Ft.	2112	2880	3768	5880	8472	11541	15072	19100	23566	33900	46176	60312	76300	94240
		R.P.M.	654	560	490	398	330	280	245	218	196	164	140	124	110	99
2400	Heater	H. P.	.101	.138	.180	.280	.405	.550	.716	.910	1.13	1.62	2.20	2.87	3.63	4.48
		R.P.M.	1059	912	788	636	534	453	396	351	322	264	234	200	176	160
2600	Free	Cu. Ft.	2475	3390	4400	6850	9870	13470	17600	22270	27500	39600	53900	70300	88950	109500
		R.P.M.	767	655	570	460	388	327	286	254	230	190	164	144	128	115
2800	Heater	H. P.	.133	.180	.235	.368	.530	.721	.942	1.19	1.55	2.12	2.12	2.89	3.77	4.77
		R.P.M.	1235	1064	919	742	623	528	463	410	376	308	274	234	205	184
3000	Free	Cu. Ft.	2830	3850	5000	7810	11300	15400	20050	25400	31400	45200	61500	80000	101200	125200
		R.P.M.	875	750	656	526	438	375	332	298	264	220	188	165	146	131
3200	Heater	H. P.	.185	.252	.330	.515	.742	1.01	1.34	1.67	2.06	2.97	4.05	5.28	6.68	8.25
		R.P.M.	1412	1216	1050	848	712	603	537	468	429	352	314	268	234	210
3400	Free	Cu. Ft.	3170	4320	5630	8850	12700	17300	22600	28600	35200	51000	69000	90200	114000	141000
		R.P.M.	980	840	732	590	490	420	368	330	294	245	210	185	163	148
3600	Heater	H. P.	.247	.336	.440	.686	.991	1.35	1.76	2.22	2.75	3.97	5.39	7.04	8.90	11.0
		R.P.M.	1588	1368	1181	954	801	679	595	526	483	396	354	302	263	236
3800	Free	Cu. Ft.	3520	4800	6280	9800	14120	19240	25120	31800	39260	56510	76960	100520	127200	157100
		R.P.M.	1090	935	815	655	545	470	410	363	327	272	234	206	182	164
4000	Heater	H. P.	.336	.456	.597	.931	1.34	1.83	2.39	3.02	3.73	5.38	7.31	9.55	12.1	14.9
		R.P.M.	1764	1520	1312	1060	890	755	664	585	528	440	380	336	292	262
4200	Free	Cu. Ft.	3890	4300	6800	10800	15520	21130	27600	35000	43200	62200	84700	110500	139800	172500
		R.P.M.	1200	1050	900	720	600	515	450	400	360	300	257	228	202	175
4400	Heater	H. P.	.424	.576	.754	1.18	1.70	2.31	3.02	3.82	4.72	6.79	9.25	12.1	15.3	18.8
		R.P.M.	1940	1700	1460	1163	971	830	727	645	582	485	415	368	323	284

# AREAS OF CIRCLES

1 $\frac{1}{2}$	.79	18 $\frac{1}{2}$	254.47	35 $\frac{1}{2}$	962.11	52 $\frac{1}{2}$	2123.72	69 $\frac{1}{2}$	3739.29	86 $\frac{1}{2}$	5808.82
	1.77	$\frac{1}{2}$	268.80	$\frac{1}{2}$	989.80	52 $\frac{1}{2}$	2164.76	69 $\frac{1}{2}$	3793.68	86 $\frac{1}{2}$	5876.56
2 $\frac{1}{2}$	3.14	19 $\frac{1}{2}$	283.53	36 $\frac{1}{2}$	1017.87	53 $\frac{1}{2}$	2206.19	70 $\frac{1}{2}$	3848.46	87 $\frac{1}{2}$	5944.69
	4.90	$\frac{1}{2}$	298.65	$\frac{1}{2}$	1046.34		2248.01	$\frac{1}{2}$	3903.63	$\frac{1}{2}$	6013.22
3 $\frac{1}{2}$	7.06	20 $\frac{1}{2}$	314.16	37 $\frac{1}{2}$	1075.21	54 $\frac{1}{2}$	2290.23	71 $\frac{1}{2}$	3959.20	88 $\frac{1}{2}$	6082.14
	9.62	$\frac{1}{2}$	330.06	$\frac{1}{2}$	1104.46		2332.83	$\frac{1}{2}$	4015.16	$\frac{1}{2}$	6151.45
4 $\frac{1}{2}$	12.56	21 $\frac{1}{2}$	346.36	38 $\frac{1}{2}$	1134.11	55 $\frac{1}{2}$	2375.83	72 $\frac{1}{2}$	4071.51	89 $\frac{1}{2}$	6221.15
	15.90	$\frac{1}{2}$	363.05	$\frac{1}{2}$	1164.16		2419.23	$\frac{1}{2}$	4128.26	$\frac{1}{2}$	6291.25
5 $\frac{1}{2}$	19.63	22 $\frac{1}{2}$	380.13	39 $\frac{1}{2}$	1194.59	56 $\frac{1}{2}$	2463.01	73 $\frac{1}{2}$	4185.40	90 $\frac{1}{2}$	6361.74
	23.75	$\frac{1}{2}$	397.61	$\frac{1}{2}$	1225.42		2507.19	$\frac{1}{2}$	4242.93	$\frac{1}{2}$	6432.62
6 $\frac{1}{2}$	28.27	23 $\frac{1}{2}$	415.48	40 $\frac{1}{2}$	1256.64	57 $\frac{1}{2}$	2551.76	74 $\frac{1}{2}$	4300.85	91 $\frac{1}{2}$	6503.90
	33.18	$\frac{1}{2}$	433.74	$\frac{1}{2}$	1288.25		2596.73	$\frac{1}{2}$	4359.17	$\frac{1}{2}$	6575.56
7 $\frac{1}{2}$	38.48	24 $\frac{1}{2}$	452.39	41 $\frac{1}{2}$	1320.25	58 $\frac{1}{2}$	2642.09	75 $\frac{1}{2}$	4417.87	92 $\frac{1}{2}$	6647.65
	44.17	$\frac{1}{2}$	471.44	$\frac{1}{2}$	1352.65		2687.84	$\frac{1}{2}$	4476.98	$\frac{1}{2}$	6720.08
8 $\frac{1}{2}$	50.26	25 $\frac{1}{2}$	490.88	42 $\frac{1}{2}$	1385.45	59 $\frac{1}{2}$	2733.98	76 $\frac{1}{2}$	4536.47	93 $\frac{1}{2}$	6792.92
	56.74	$\frac{1}{2}$	510.71	$\frac{1}{2}$	1418.63		2780.51	$\frac{1}{2}$	4596.36	$\frac{1}{2}$	6866.16
9 $\frac{1}{2}$	63.61	26 $\frac{1}{2}$	530.93	43 $\frac{1}{2}$	1452.20	60 $\frac{1}{2}$	2827.44	77 $\frac{1}{2}$	4656.64	94 $\frac{1}{2}$	6939.79
	70.88	$\frac{1}{2}$	551.55	$\frac{1}{2}$	1486.17		2874.76	$\frac{1}{2}$	4717.31	$\frac{1}{2}$	7013.82
10 $\frac{1}{2}$	78.54	27 $\frac{1}{2}$	572.56	44 $\frac{1}{2}$	1520.53	61 $\frac{1}{2}$	2922.47	78 $\frac{1}{2}$	4778.37	95 $\frac{1}{2}$	7088.23
	86.59	$\frac{1}{2}$	593.95	$\frac{1}{2}$	1555.29		2970.58	$\frac{1}{2}$	4839.83	$\frac{1}{2}$	7163.04
11 $\frac{1}{2}$	95.03	28 $\frac{1}{2}$	615.75	45 $\frac{1}{2}$	1590.43	62 $\frac{1}{2}$	3019.08	79 $\frac{1}{2}$	4901.68	96 $\frac{1}{2}$	7238.25
	103.87	$\frac{1}{2}$	637.94	$\frac{1}{2}$	1625.97		3067.97	$\frac{1}{2}$	4963.92	$\frac{1}{2}$	7313.84
12 $\frac{1}{2}$	113.10	29 $\frac{1}{2}$	660.52	46 $\frac{1}{2}$	1661.91	63 $\frac{1}{2}$	3117.25	80 $\frac{1}{2}$	5026.56	97 $\frac{1}{2}$	7389.83
	122.72	$\frac{1}{2}$	683.49	$\frac{1}{2}$	1698.23		3166.93	$\frac{1}{2}$	5089.59	$\frac{1}{2}$	7466.21
13 $\frac{1}{2}$	132.73	30 $\frac{1}{2}$	706.86	47 $\frac{1}{2}$	1734.95	64 $\frac{1}{2}$	3217.00	81 $\frac{1}{2}$	5153.01	98 $\frac{1}{2}$	7542.98
	143.13	$\frac{1}{2}$	730.62	$\frac{1}{2}$	1772.06		3267.46	$\frac{1}{2}$	5216.82	$\frac{1}{2}$	7620.15
14 $\frac{1}{2}$	153.94	31 $\frac{1}{2}$	754.76	48 $\frac{1}{2}$	1809.56	65 $\frac{1}{2}$	3318.31	82 $\frac{1}{2}$	5281.03	99 $\frac{1}{2}$	7697.71
	165.13	$\frac{1}{2}$	779.31	$\frac{1}{2}$	1847.46		3369.56	$\frac{1}{2}$	5345.63	$\frac{1}{2}$	7775.66
15 $\frac{1}{2}$	176.72	32 $\frac{1}{2}$	804.25	49 $\frac{1}{2}$	1885.75	66 $\frac{1}{2}$	3421.20	83 $\frac{1}{2}$	5410.62	100 $\frac{1}{2}$	7854.00
	188.69	$\frac{1}{2}$	829.57	$\frac{1}{2}$	1924.43		3473.24	$\frac{1}{2}$	5476.01	$\frac{1}{2}$	7932.74
16 $\frac{1}{2}$	201.06	33 $\frac{1}{2}$	855.30	50 $\frac{1}{2}$	1963.50	67 $\frac{1}{2}$	3525.66	84 $\frac{1}{2}$	5541.78	.	.
	213.83	$\frac{1}{2}$	881.41	$\frac{1}{2}$	2002.97		3578.48	$\frac{1}{2}$	5607.95	.	.
17 $\frac{1}{2}$	226.98	34 $\frac{1}{2}$	907.92	51 $\frac{1}{2}$	2042.83	68 $\frac{1}{2}$	3631.69	85 $\frac{1}{2}$	5674.51	.	.
	240.53	$\frac{1}{2}$	934.82	$\frac{1}{2}$	2083.08		3685.29	$\frac{1}{2}$	5741.47	.	.

# WEIGHTS OF GALVANIZED IRON PIPE PER LINEAL FOOT

Diameter of  
Pipe  
in Inches

## GAUGE OF IRON—NUMBERS

	18	20	22	24	26
3	2 $\frac{1}{4}$	1 $\frac{3}{4}$	1 $\frac{1}{2}$	1 $\frac{1}{4}$	1
4	2 $\frac{3}{4}$	2 $\frac{1}{4}$	1 $\frac{3}{4}$	1 $\frac{1}{2}$	1 $\frac{1}{4}$
5	3 $\frac{1}{4}$	2 $\frac{3}{4}$	2	1 $\frac{3}{4}$	1 $\frac{1}{2}$
6	3 $\frac{3}{4}$	3	2 $\frac{1}{4}$	2	1 $\frac{3}{4}$
7	4 $\frac{1}{2}$	3 $\frac{1}{2}$	2 $\frac{3}{4}$	2 $\frac{1}{4}$	2
8	5 $\frac{1}{4}$	4	3	2 $\frac{3}{4}$	2 $\frac{1}{4}$
9	5 $\frac{3}{4}$	4 $\frac{1}{2}$	3 $\frac{1}{4}$	3	2 $\frac{3}{8}$
10	6 $\frac{1}{4}$	4 $\frac{3}{4}$	3 $\frac{1}{2}$	3 $\frac{1}{4}$	2 $\frac{1}{2}$
11	6 $\frac{3}{4}$	5 $\frac{1}{4}$	3 $\frac{3}{4}$	3 $\frac{1}{2}$	2 $\frac{3}{4}$
12	7 $\frac{1}{2}$	5 $\frac{3}{4}$	4 $\frac{1}{4}$	3 $\frac{3}{4}$	3
13	8	6 $\frac{1}{4}$	4 $\frac{1}{2}$	4	3 $\frac{1}{4}$
14	8 $\frac{1}{2}$	6 $\frac{3}{4}$	4 $\frac{3}{4}$	4 $\frac{1}{4}$	3 $\frac{1}{2}$
15	9 $\frac{1}{4}$	7 $\frac{1}{4}$	5 $\frac{1}{4}$	4 $\frac{3}{4}$	3 $\frac{3}{4}$
16	9 $\frac{3}{4}$	7 $\frac{3}{4}$	5 $\frac{1}{2}$	5	4
17	10 $\frac{1}{4}$	8	6	5 $\frac{1}{4}$	4 $\frac{1}{4}$
18	10 $\frac{3}{4}$	8 $\frac{1}{2}$	6 $\frac{1}{4}$	5 $\frac{1}{2}$	4 $\frac{1}{2}$
19	11 $\frac{1}{2}$	9	6 $\frac{3}{4}$	5 $\frac{3}{4}$	4 $\frac{3}{4}$
20	12	9 $\frac{1}{2}$	7	6	5 $\frac{1}{4}$
21	12 $\frac{1}{2}$	9 $\frac{3}{4}$	7 $\frac{1}{2}$	6 $\frac{1}{2}$	5 $\frac{1}{2}$
22	13 $\frac{1}{4}$	10 $\frac{1}{4}$	7 $\frac{3}{4}$	6 $\frac{3}{4}$	5 $\frac{3}{4}$
23	14	11	8 $\frac{1}{4}$	7	6
24	14 $\frac{3}{4}$	11 $\frac{1}{2}$	8 $\frac{3}{4}$	7 $\frac{1}{2}$	6 $\frac{1}{2}$
26	15 $\frac{3}{4}$	12 $\frac{1}{2}$	9 $\frac{1}{4}$	7 $\frac{3}{4}$	6 $\frac{1}{2}$
28	16 $\frac{3}{4}$	13 $\frac{1}{2}$	9 $\frac{3}{4}$	8 $\frac{1}{2}$	7
30	18	14	10 $\frac{1}{2}$	9	7 $\frac{1}{2}$
32	19 $\frac{1}{4}$	15	11 $\frac{1}{4}$	9 $\frac{3}{4}$	8
34	20 $\frac{1}{4}$	15 $\frac{3}{4}$	12	10 $\frac{1}{4}$	8 $\frac{1}{2}$
36	21 $\frac{1}{2}$	16 $\frac{3}{4}$	12 $\frac{1}{2}$	10 $\frac{3}{4}$	9
38	22 $\frac{1}{4}$	18	13 $\frac{1}{2}$	11 $\frac{1}{2}$	9 $\frac{1}{2}$
40	24	18 $\frac{3}{4}$	14	12	10
42	25	19 $\frac{1}{2}$	14 $\frac{3}{4}$	12 $\frac{1}{2}$	10 $\frac{1}{2}$
44	26 $\frac{1}{4}$	20 $\frac{1}{2}$	15 $\frac{1}{2}$	13	11
46	27 $\frac{1}{2}$	21 $\frac{1}{4}$	16	13 $\frac{3}{4}$	11 $\frac{1}{2}$
48	28 $\frac{1}{2}$	22 $\frac{1}{4}$	16 $\frac{3}{4}$	14 $\frac{1}{4}$	12
50	29 $\frac{3}{4}$	23	17 $\frac{1}{2}$	15	12 $\frac{1}{2}$
52	31 $\frac{1}{4}$	24 $\frac{1}{4}$	18 $\frac{1}{4}$	...	...
54	32 $\frac{1}{2}$	25	18 $\frac{3}{4}$	...	...
56	33 $\frac{3}{4}$	26	19	...	...
58	35	26 $\frac{3}{4}$	20 $\frac{1}{4}$	...	...
60	36 $\frac{1}{4}$	27 $\frac{1}{2}$	20 $\frac{3}{4}$	...	...
63	38 $\frac{1}{4}$	29	21 $\frac{3}{4}$	...	...
66	40	30 $\frac{1}{4}$	22 $\frac{3}{4}$	...	...
69	41 $\frac{3}{4}$	32 $\frac{1}{4}$	23 $\frac{3}{4}$	...	...
72	43 $\frac{1}{2}$	33 $\frac{1}{4}$	25	...	...

A FEW OF  
OUR OTHER SPECIALTIES

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"ABC" Blower.



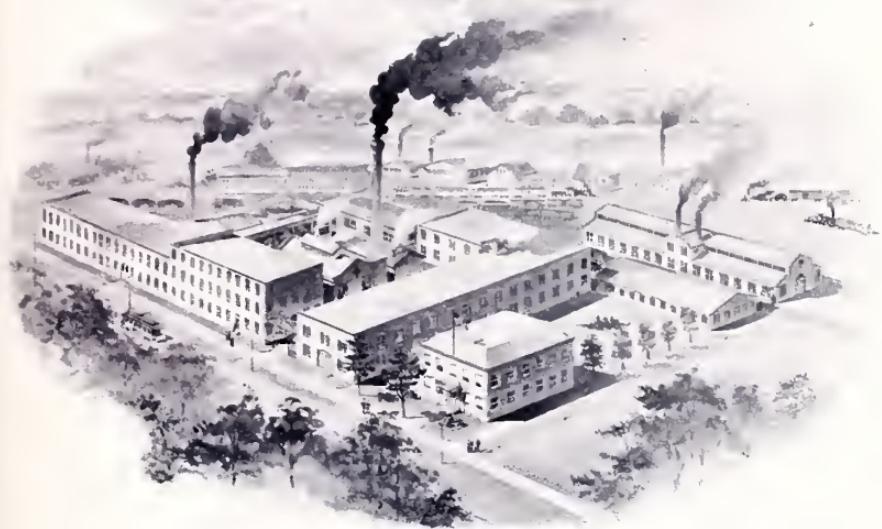
"ABC" Exhaust Fan.



"ABC" Automatic Engine.



"ABC" Steel Dry Kiln Truck.







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